DEVICE FOR EPITAXIAL GROWTH OF COMPOUND SEMICONDUCTOR

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Abstract

PURPOSE:To shorten the changeover times of raw material gases and allow crystals to continuously grow on many substrates by disposing plural raw material gas-feeding chambers in the upstream end of a reaction tube and successively feeding the raw material gases into the plural growth chambers disposed at the tip of a rotation shaft.
CONSTITUTION:For example, feeding chambers for the gases of AsH3, gas- purging H2 and GaCl3 are disposed at the upstream end of the quartz reaction tube of a device for the growth of a GaAs atomic layer by a chloride method. A cylindrical substrate holder is disposed at the tip of a rotation shaft penetrated through the downstream end of the reaction tube. Six cylindrical growth chambers are formed in the substrate holder, and GaAs substrates are received in the respective growth chambers. After the substrates are heated to a growth temperature, the rotation shaft is stepwisely rotated, and the gases of AsH3+H2, H2, and GaCl3+H2 are changed with each other in a short time and successively fed into the growth chambers to form GaAs atomic layers on the substrates.